

# HANEUL LEE

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Address: 5009 Orchard Park Circle, Davis, California, USA

## RESEARCH INTERESTS

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Software Engineering, Machine Learning, High Performance Computing

## EDUCATION

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**UNIVERSITY OF CALIFORNIA, DAVIS**

Doctor of Philosophy in **Computer Science**

**Davis, CA, USA**

Expected Jun. 2029

**KONKUK UNIVERSITY**

Bachelor of Science in **Computer Engineering** (GPA: 4.17/4.5)

**Chungju, Korea**

Feb. 2018

## PUBLICATIONS

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**A Study on Personalized Health Care Contents Recommendation Algorithm** (Korean)

Jul. 2017

*Korea Society of Computer Information*

- In this paper, we provide customized health information to users among the infinite information provided through the web services or mobile applications. To achieve this, we designed a customized health content recommendation algorithm, which is used by using group intelligence algorithms and the decision tree. The self-health checkup information from users of customized health recommendation material is utilized and it is customized on the URL information on the web.

## RESEARCH EXPERIENCE

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**KONKUK UNIVERSITY**

Student Researcher

**Chungju, Korea**

Oct. 2016 – Feb. 2018

- Conducted a machine learning study that predicts the risk of disease based on the user's health information
- Created dump data and used KNN algorithms, Naïve Bayesian and association rules to study which algorithms are most optimized and calculate the values of each algorithm for optimization
- Designed ACDT (Ant Colony Decision Tree), web crawler and page rank for analyzing and recommending personalized healthcare information based on collective intelligence algorithms and machine learning with python programming

## RELEVANT WORK EXPERIENCE

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**KEPCO KNOWLEDGE, DATA & NETWORK (KDN)** | *A leading electric power grid IT service provider*

**Naju, Korea**

**Web System Developer & Engineer** | *Information and Communications Technology (ICT) Center*

Jul. 2018 – Mar. 2022

- Responsible for a wide range of enterprise solution development, system maintenance, server configuration, troubleshooting, data management, system optimization, and documentation in compliance with the company's IT guideline and regulations
- Joined the firm as a technical intern (Jul-Sep2019); promoted to full-time employment (Oct2018-Mar2022), Associate Engineer
- **Enterprise System Development, Optimization & Data Migration**
  - Established the optimized system development and upgrade strategy in alignment with the organization's business objective, product priorities, allocated resources, given timeline, and KPI goals as part of integration support initiatives
  - Took part in data migration to match data integrity and standardize data sets amongst different systems; adjusted database name, column name, type, and size according to the data dictionary/version; led the data job, procedures, triggers
  - Diagnosed the current workflow within existing systems by identifying business issues, data problems/errors, & database redundancy; handled simulations on viable scenarios based on analysis on developer's metrics to attain effective solution
- **Server Maintenance, Configuration & Troubleshooting**
  - Played a pivotal role in server maintenance as a Database Engineer by resolving network problems and issues through trouble shooting based on daily automated processes; investigated variations, faults, and root causes of issues in the network
  - Acknowledged new government regulation change or update to reflect into the system configuration or feature development in a timely manner; rectified the system UI/added new calculation category in reflection of client feedback
  - Performed ongoing server operation, monitoring, testing, and maintenance according to the database specification and settings; reported network efficiency/security status by strictly adhering to the internal network maintenance guidelines
- **Project Management, Documentation & Risk Mitigation**
  - Handled end-to-end process of project management of web server system maintenance, development, implementation, and operation; liaised with system updates and administered contract management such as contract renewal and payment

- Managed system documentation by recording technical description, server specification, system framework, and server version information to streamline the workflow and convey consistent information across the teams internally/externally
- Took part in the security check twice a quarter to ensure system accountability, stability, and integrity; followed up on the action plan with internal reporting in case any system inconsistency or vulnerability is found to mitigate potential risk

## **KOREA INSTITUTE OF PATENT INFORMATION**

**Daejeon, Korea**

**IT Intern | Database Management Team**

Jun 2018 – Jul 2018

- Involved in the database development project management to establish an integrated search engine system by containing global data sets toward Intellectual Property; supported the database development by applying registered patent data in Korea
- Collected, analyzed, and evaluated large patent data, and reviewed complex statistical information for system development, configuration, testing, and implementation in coordination with various technical developers, engineers, and project managers

## **KOREA POWER EXCHANGE (KPX)**

**Naju, Korea**

**IT Intern | IT Development Team**

Apr 2018 – May 2018

- Took part in the general electrical system and network training to advance the practical/technical skills, including data transmission process, market price calculation methodology, power transmission network system operation across the country
- Conducted research industry trend and competitor study on new energy infrastructure, equipment, and power facilities, and organized industry information to conduct a presentation; wrote up meeting minutes and distributed internally for their review;

## **ACADEMIC SERVICE AND PRESENTATIONS**

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- Co-reviewer | **ICSE 2025** Research Track
- Co-reviewer | **PLDI 2024** Research Track
- Thesis Poster Presentations | **Korea Society of Computer Information Conference** | Jul 2017

## **TEACHING EXPERIENCE**

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- Teaching Assistant | ECS 140A Programming Languages | University of California, Davis | Spring 2024
- Teaching Assistant (Volunteer) | Computational Thinking (Scratch & Python) | Konkuk University | 1st Semester 2017
- Instructor (Volunteer) | Conducted Math and Science Lessons | PSH Child Center | Chungju, Korea | Apr 2014 – Nov 2015

## **ENGINEERING PROJECTS & TRAINING**

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- Information Security Engineer Training (800 Hours) | **Korea Information Technology Research Institute** | Aug 2017 – Jan 2018
- Student Researcher | **Machine Learning and Intelligence Algorithm** | Konkuk University | Oct 2016 – Feb 2018
- Student Developer & Planner | Undertook Application Planning to Develop an Android App <Doran Doran> and Published into the Google Play Store for Competition Participation with Team Members | Sep 2016 – Oct 2016
- Mobile Professional Training Course | **Android Application Development using Java** | SKT Academy | Jul 2016 – Sep 2016

## **SKILLS**

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- Languages | Korean (Native speaker), English (Full professional fluency)
- Programming Languages | **Python, Java (Web and Android Application), JavaScript, Oracle, MSSQL, MySQL, HTML, CSS**
- Tools | **Docker, Visual Studio code, Eclipse, Android Studio, Oracle SQL Developer, Toad, SQL Server Management Studio, MySQL Workbench, eXERD(Database Modeling)**